

## 3.6 Traffic and Circulation

Potential effects of the proposed Facility on traffic and circulation would be increased traffic congestion, damage to state highways or county roads, increased traffic hazards, or impairment of access due to construction activities. As described below, the Facility would have no significant unavoidable adverse impacts on transportation and circulation. Impacts during construction of the Facility would be temporary and localized; no significant impacts would occur during Facility operation.

The information presented in this section is based on the studies and analysis conducted for the SCA as amended by Amendments No. 1 and No. 2, filed with EFSC on July 25, 2003, and October 15, 2003, respectively.

### 3.6.1 Affected Environment

#### 3.6.1.1 Roadway System and Levels of Service

The existing network of roads surrounding the proposed Facility includes West Langell Valley Road, East Langell Valley Road, Harpold Road, Oregon Route (OR) 70 (ODOT #23), OR 50, and OR 140, as shown in Figure 3.6-1. These local roads currently have low average daily traffic volumes and low average yearly accident rates (1 to 5 annually). Levels of service are generally A or B, which are considered a high level of operation. These five roads have a high-quality asphalt surface. Table 3.6-1 shows the roadway system in the Facility area and its existing conditions (including roadway classifications, traffic volumes, and levels of service) in 2001. Klamath County does not have a peak-hour level-of-service standard for its rural roadways.

Weight and load limits exist on some of the roadways near the Energy Facility site because of bridges, irrigation canals, and river crossings along some of the roads.

#### 3.6.1.2 Truck Traffic

During the peak harvest season, trucks transport grain, hay, alfalfa, and potatoes to the grain silos and other locations south of the Energy Facility site.

#### 3.6.1.3 Railway Facilities

Burlington Northern Santa Fe (BNSF) provides regional rail freight service in the area. The closest rail access to the Energy Facility site is a rail line spur near the town of Malin.

### 3.6.2 Environmental Consequences and Mitigation Measures

Potential impacts during construction and operation could include increased traffic congestion, damage to state highways or county roads, increased traffic hazards, or impairment of access due to construction activities.

Impact 3.6.1. During construction, roadways in the vicinity of the Energy Facility would experience a decrease in level of service (LOS).

Assessment of Impact. During the 23-month construction period, up to 835 daily trips, including trips generated by construction vehicles and by Facility employees, would be

added to existing traffic levels on area roadways (Table 3.6-2). Of these, up to 420 trips would occur during the evening (PM) peak hour. Primary impacts would be to roads surrounding the proposed Energy Facility site and connecting the site to Klamath Falls, which are likely to be the most traveled. A large proportion of the permanent and temporary workforce would be located in Klamath Falls because of its concentrated population and housing options. Construction equipment would be transported from the BNSF rail line spur near the town of Malin along OR 50 to Harpold Road, then via West Langell Valley Road to the Energy Facility site.

Substantial construction-related impacts on the local roads are not expected because the existing roadway capacity is adequate to accommodate the additional traffic volumes. As shown in Table 3.6-3, levels of service on most area roadways would drop to B or C as a result of the additional construction traffic. However, roadways would continue to maintain an acceptable level of traffic operation, even during the evening peak period. To minimize impacts, Facility-related construction activities would be scheduled so that construction traffic would occur during off-peak hours; a carpool program would be offered to minimize single-occupancy vehicle use by construction workers.

Where traffic disruptions were necessary, detour plans, warning signs, and traffic diversion equipment would be used to improve safety. One lane of travel would be open and maintained with licensed flaggers used to direct traffic.

Recommended Mitigation Measures. No measures beyond those included in the proposed project are recommended.

Impact 3.6.2. Vehicles weighing more than 80,000 pounds (maximum legal load limit) could cause some visible damage to county roads.

Assessment of Impact. The weight of construction vehicles could result in damage to the asphalt roads that would be used for access to the Facility. To help mitigate this potential impact, roads used for heavy vehicle traffic would be videotaped before and after use to identify any damage to the road. If damage occurs as a result of vehicles carrying heavy loads, the road would be restored to its previous condition.

Recommended Mitigation Measures. No measures beyond those included in the proposed project are recommended.

Impact 3.6.3. Operation of the Energy Facility would generate additional traffic.

Assessment of Impact. Traffic during operation of the Energy Facility would depend on the alternative selected for process wastewater management. Traffic during operations would be the same with either of the following alternatives: evaporation in an onsite, lined evaporation pond or beneficial use of the water for irrigated pasture. If the storing and hauling to a WWTP for offsite disposal alternative is selected, additional truck trips would be required.

Operation of the Facility would generate less than four truck trips per week (not including truck trips for process wastewater disposal) and approximately 20 PM peak-hour worker trips daily (Tables 3.6-4 and 3.6-5). To assess potential impacts, a traffic analysis was performed and evaluated against standard levels of service. The results of the analysis are shown in Table 3.6.5, which summarizes the LOS for local roadways during the construction

period. As shown in Table 3.6-5, traffic during Facility operation would not substantially reduce the LOS on the roadways or create a substantial impact on local traffic.

An additional 5 to 9 truck trips per day would be required if the storing and hauling to a WWTP for offsite disposal alternative is selected. The proposed route for these wastewater trips into and out of the Energy Facility would be along West Langell Valley Road, Harpold Road (north of West Langell Valley Road), Oregon Highway 70 (west of Harpold Road), and Oregon Highway 140 (west of OR 70). Accounting for a two-way trip, this would generate an additional 10 to 18 trips per day along each of the roads. Although, these trips can reasonably be assumed to occur throughout the day, to be conservative it was assumed that all of these trips occur in the PM peak hour. This change is expected to not cause any noticeable impacts and the roadway level of service would not substantially reduce the LOS on the roadways or create a substantial impact on local traffic.

Recommended Mitigation Measures. No measures are recommended.

### **3.6.3 Cumulative Impacts**

The analysis of present traffic on the roads in the vicinity of the proposed project indicates there would not be a significant impact as a result of the project. The minor increase in traffic would result in minor cumulative impacts. In addition, there are no known reasonably foreseeable actions that would increase traffic in the vicinity of the project and lead to additional cumulative impacts.



**TABLE 3.6-1**  
2001 Conditions of Affected Roadways

Roadway	Classification	No. of Lanes	Average Daily Volume <sup>a</sup>	Hourly Design Capacity <sup>b</sup>	PM Peak-Hour Volume <sup>c</sup>	PM Peak-Hour LOS
*West Langell Valley Road (south of Harpold Road)	Rural-Minor Arterial	2	400	2,800	40	A
*Harpold Road (north of West Langell Valley Road)	Rural-Minor Arterial	2	400	2,800	40	A
*Harpold Road (south of West Langell Valley Road)	Rural-Minor Arterial	2	400	2,800	40	A
*East Langell Valley Road	Rural-Minor Arterial	2	400	2,800	40	A
OR 50 (east of Harpold Road)	Major-Collector	2	1,500	2,800	150	A
OR 50 (west of Harpold Road)	Major-Collector	2	1,500	2,800	150	A
OR 70 (east of Harpold Road/Carol Avenue)	Urban-Collector	2	1,900	2,800	190	A
OR 70 (west of Harpold Road)	Urban-Collector	2	870	2,800	90	A
OR 140 (east of OR 70)	Major-Collector	2	3,100	2,800	310	B
OR 140 (west of OR 70)	Major-Collector	2	3,300	2,800	330	B

<sup>a</sup> Estimated number of vehicles per day in both directions.

<sup>b</sup> Maximum number of vehicles per hour in both directions for level of service (LOS) E.

<sup>c</sup> Vehicles per hour in both directions.

Source: *Highway Capacity Manual*, 2000

**TABLE 3.6-2**  
Total Daily Construction-Related Vehicle Trip Generation

<b>Type of Vehicle</b>	<b>Average Daily Vehicle Trips</b>	<b>Average PM Peak</b>	<b>Peak Daily Vehicle Trips</b>	<b>PM Peak on Peak Day</b>
Construction Vehicles	45	25	155	80
Worker Vehicles *				
- <i>Average Workforce of 352</i>	545	275	-	-
- <i>Peak Workforce of 543</i>	-	-	835	420

\* This analysis assumes an average vehicle occupancy (AVO) of 1.3.

**TABLE 3.6-3**  
Daily and Peak Hour Traffic Volumes and LOS with Energy Facility Construction Impacts

Roadway	Background Traffic	Daily			PM Peak				LOS
		Number of Construction Worker Trips	Number of Construction Vehicles	Combined Traffic	Construction Worker Trips	Construction Vehicles	Background Traffic	Combined PM Peak	
West Langell Valley Road (south of Harpold Road)	400	835	155	1,390	420	80	40	540	C
Harpold Road (north of West Langell Valley Road)	400	835	155	1,390	420	80	40	540	C
Harpold Road (south of West Langell Valley Road)	400	835	155	1,390	420	80	40	540	C
East Langell Valley Road	400	835	155	1,390	420	80	40	540	C
OR 50 (east of Harpold Road)	1,500	835	155	2,490	420	80	150	650	C
OR 50 (west of Harpold Road)	1,500	835	155	2,490	420	80	150	650	C
OR 70 (east of Harpold Road/Carol Avenue)	1,900	835	155	2,890	420	80	190	690	C
OR 70 (west of Harpold Road)	870	835	155	1,860	420	80	90	590	C
OR 140 (east of OR 70)	3,100	835	155	4,090	420	80	310	810	C
OR 140 (west of OR 70)	3,300	835	155	4,290	420	80	330	830	C
West Langell Valley Road (south of Harpold Road)	400	715	100	1,215	360	50	40	450	B
Harpold Road (north of West Langell Valley Road)	400	715	100	1,215	360	50	40	450	B

**TABLE 3.6-4**  
Estimated Truck Traffic at the Energy Facility During Operation

<b>Delivery Type</b>	<b>Number and Occurrence of Trucks</b>
Aqueous ammonia	2 per week
Condensed polisher waste	1 per month
Cleaning chemicals	1 per month
Trash pickup	1 per week
Sanitary waste	1 per year
Wastewater transport*	5 to 9 per day

\* Applies only if storage and haul to wastewater treatment plant (WWTP) option is selected.



**TABLE 3.6.5**  
Existing and Future Peak-Hour Traffic Volumes and LOS with and without Energy Facility Impacts

	2000 Existing PM Peak		2004 PM Peak <i>without</i> Energy Facility		2004 PM Peak <i>with</i> Energy Facility	
	Traffic Volumes	LOS	Traffic Volumes	LOS	Traffic Volumes*	LOS
West Langell Valley Road (south of Harpold Road)	40	A	45	A	65/83	A
Harpold Road (north of West Langell Valley Road)	40	A	45	A	65/83	A
Harpold Road (south of West Langell Valley Road)	40	A	45	A	65/65	A
East Langell Valley Road	40	A	45	A	65/65	A
OR 50 (east of Harpold Road)	150	A	165	A	185/185	A
OR 50 (west of Harpold Road)	150	A	165	A	185/185	A
OR 70 (east of Harpold Road/Carol Avenue)	190	A	210	A	230/230	A
OR 70 (west of Harpold Road)	90	A	100	A	120/138	A
OR 140 (east of OR 70)	310	B	342	B	360/360	B
OR 140 (west of OR 70)	330	B	365	B	385/403	B

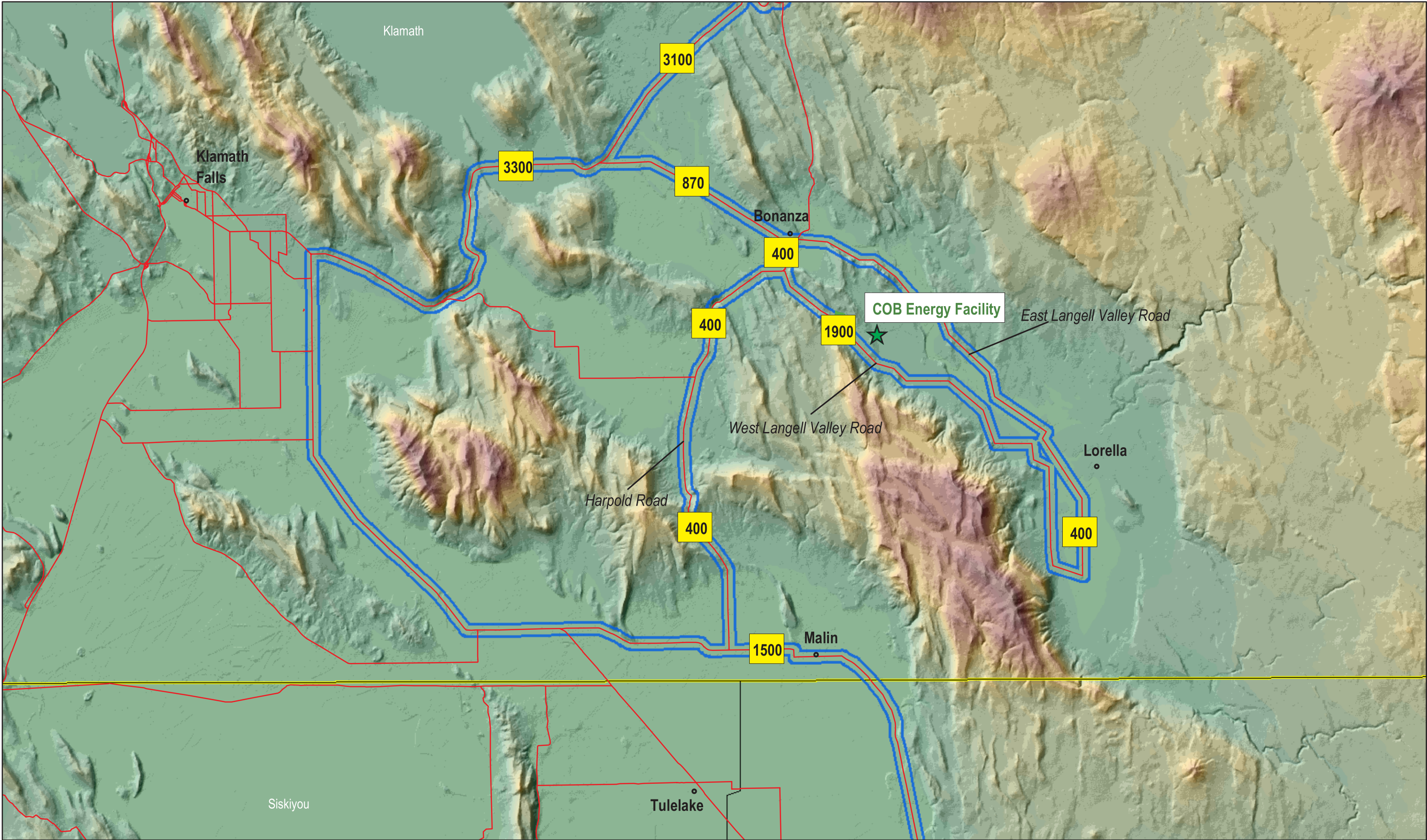
\* 65/83: Traffic volume without process wastewater truck trips/traffic volume with process wastewater truck trips.

LOS = level of service

Estimated 1 percent growth factor for 2004.

Source: Oregon Department of Transportation





**Legend**

- Roads **400**
- Counties
- States
- Two-Lane Roads
- COB Energy Facility

N

1 inch equals 3 miles

0 0.5 1 2 Miles

**Figure 3.6-1**  
Existing 2001 Average  
Daily Traffic Count Map  
COB Energy Facility  
Bonanza, OR

PEOPLES ENERGY SERVICES

Figure 3.6-1  
11 x 17  
Color  
Back